

SAT Report for Case # P-18-0212

General

Report Complete

Status: 11/26/2018
Date:

CRSS Date: 06/25/2018 **SAT Date:** 06/26/2018 **SAT Chair:** Doritza Pagan-Rodriguez

Consolidated N PMN?

Consolidated Set:

Submitter: Allnex USA Inc.

CAS Number: [REDACTED]

Ecotox Related Cases:

Health Related Cases:

Chemical Name: [REDACTED]
[REDACTED] [REDACTED]
[REDACTED]
[REDACTED]

Use: Resin for coatings applied to glass substrates; the resin improves the coatings' appearance and adhesion.
All analogs are binder resins for coatings.
Polymer Exemption case (E1).

Trade name: RESYDROL® VAY 5536w/60BMPP liquid coating resins, RESYDROL® AY 5537w/35WA liquid coating resins, RESYDROL® AY 6838w/35WA liquid coating resins,

PV Max (kg/yr): [REDACTED]

Ecotox Assessor: Jewett,
Freeborn

Fate Assessor: Lee,
WenHsiung

Health Assessor: Salazar,
Keith

Physical Chemical Information

Molecular Weight:	4453.0	Physical State - Neat:	Solid (est.)
Percent 500:	1.2	Percent 1000:	6.2
Melting Point (Measured):		Melting Point (est):	
Vapor Pressure:		Vapor Pressure (est):	<0.000001
Water Solubility:		Water Solubility (EST):	Dispersible
Log Kow:		Log P Comment:	
		MPD (EPI):	
		VP (EPI):	
		Water Solubility (EPI):	
		Log Kow (EPI):	

SAT Concern

Ecotox Rating (1):	1	Ecotox Rating Comment (1):	
Ecotox Rating (2):		Ecotox Rating Comment (2):	
Health Rating (1):	1-2	Health Rating Comment (1):	
Health Rating (2):		Health Rating Comment (2):	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
3	1	1	

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**Exposure
Based Review
(Health)?**

**Exposure Based N
Review
(Ecotox)?**

**SAT DEV (UNCERT); SYST, LOCAL
Keywords: EFFECTS**

Fate Assessment P-18-0212

Summary: FATE: MW = 4453 with $1.2\% < 500$ and

$6.2\% < 1000$

Solid

S = Disp.

VP < $1.0\text{E-}6$ torr at $25\text{ }^{\circ}\text{C}$

(E)

BP > $400\text{ }^{\circ}\text{C}$ (E)

H < $1.00\text{E-}8$ (E)

POTW removal (%) = 90

via sorption

Time for complete ultimate aerobic biodeg >
mo

Sorption to soils/sediments = v.strong

PBT Potential:

P3B1

*CEB FATE: Migration to ground water = negl

PMN

Material:

Overall wastewater treatment removal is 90% via sorption.

Sorption to sludge is strong based on data for large molecular weight polymers.

Air Stripping (Volatilization to air) is negligible based on data for large molecular weight polymers.

Removal by biodegradation in wastewater treatment is negligible based on data for large molecular weight polymers.

The aerobic aquatic biodegradation half-life is greater than months based on data for large molecular weight polymers.

The anaerobic aquatic biodegradation half-life is greater than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and

sediment is very strong based on data for large molecular weight polymers.
 Migration to groundwater is negligible based on data for large molecular weight polymers.
 PMN Material:
 High Persistence (P3)
 is based on the anaerobic biodegradation half-life and the high molecular volume.
 Low Bioaccumulation potential (B1) is based on data for large molecular weight polymers in addition to low water solubility, which inhibits bioavailability and biodegradation.
 Bioconcentration/Bioaccumulation factor to be put into E-Fast: N/A.

**Removal in 90
 WWT/POTW
 (Overall):**

Condition	Rating Values w/ Rating Description	Comment
WWT/POTW	3	
Sorption:		
WWT/POTW	4	
Stripping:		
Biodegradation	4	
Removal:		
Biodegradation		
Destruction:		
Aerobic Biodeg	4	
Ult:		
Aerobic Biodeg		
Prim:		
Anaerobic Biodeg	4	
Ult:		
Anaerobic Biodeg		
Prim:		
Hydrolysis (t1/2		
at pH 7,25C) A:		
Hydrolysis (t1/2		
at pH 7,25C) B:		
Sorption to	1	
Soils/Sediments:	1	

Condition	Rating Values w/ Rating Description	Comment
Migration to Ground Water: Photolysis A, Direct: Photolysis B, Indirect: Atmospheric Ox A, OH: Atmospheric Ox B, O3:		

Health Assessment

Health Summary: Absorption of the neat material is nil all routes; if in solution, absorption of the LMW fractions is poor all routes (pchem). Concern for portal of entry effects, systemic effects and potential developmental toxicity based on data on cation.

Routes of Exposure: Dermal , Oral, Inhalation

Test Data Submitted

Test Data The Submitted: Human Health Form A presents a more detailed screening profile for this PMN substance including information on the animal data mentioned in this report and derived PODs based on evaluation of the available data and information.

Notes:

At pre-SAT/SAT, the PMN was not identified as a lung toxicant based on pchem properties, lack of structural alerts and because it is not expected to behave as a surfactant in the lungs.

PMN substance contains about [REDACTED] cation moiety and [REDACTED] acid. Info on

[REDACTED] in TOXNET indicate that transient corneal opacity, changes in respiratory and olfactory epithelium of the nasal cavity, body weight loss and potential developmental toxicity effects (only one fetal variation was elevated in the high dose group) have been observed in animal studies. (see [REDACTED])

Ecotox Assessment

Test organism	Test Type	Test Endpoint	Predicted	Measured	Comments
Fish	96-h	LC50	>100		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)
Daphnid	48-h	LC50	>100		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)
Green Algae	96-h	EC50	>100		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)
Fish	-	Chronic Value	>10		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)
Daphnid	-	Chronic Value	>10		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)
Green Algae	-	Chronic Value	>10		Predictions are based on SARs for polyanionic polymers- [REDACTED] acid group (special class within ECOSAR v.2.0)

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic:	100000	5	20000	Fish/Daphnia LC50
Chronic Aquatic:	10000	10	1000	Fish/daphnia ChV

Ecotox Route of Exposure? No releases to water

Factors	Values	Comments
SARs:	Polyanionic Polymers	
SAR Class:	Polymer-anionic- [REDACTED] COO anion-dispersible	
TSCA NCC Category?	Polyanionic Polymers (Monomers)	

Recommended Testing

Ecotox

Value Comments

Predictions are based on SARs for polyanionic polymers-[REDACTED] acid group (special class within ECOSAR v.2.0); MW 4453 with 1.2% <500 and 6.2% <1000; [REDACTED] COO anion; solid (est.) with an unknown MP (P); S = dispersible (P); effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO₃; and TOC <2.0 mg/L.

Ecotox Factors

Comments

Environmental Hazard: Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risk because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA determined environmental hazard for this new chemical substance based on SAR predictions for polyanionic polymers-[REDACTED] acid group (special class within ECOSAR v.2.0). Acute toxicity values estimated for fish, aquatic invertebrates, and algae are >100 mg/L, >100 mg/L, and >100 mg/L, respectively. Chronic toxicity values estimated for fish, aquatic invertebrates, and algae are >10 mg/L, >10 mg/L, and >10 mg/L, respectively. These toxicity values indicate that the new chemical substance is expected to have low environmental

hazard. Application of assessment factors of 5 and 10 to acute and chronic toxicity values, respectively, results in acute and chronic concentrations of concern of 20 mg/L (20,000 ppb) and 1 mg/L (1,000 ppb), respectively.

Environmental Risk: Risks to the environment were evaluated by comparing estimated surface water concentrations with the acute and chronic concentrations of concern. Risks to the environment were not identified based on low hazard.